



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-1054; Project Identifier AD-2022-00278-T]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to supersede Airworthiness Directive (AD) 2017-18-05, which applies to all The Boeing Company Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, 747SR, and 747SP series airplanes. AD 2017-18-05 requires repetitive replacement or inspection of certain fuse pins, and applicable on-condition actions. Since the FAA issued AD 2017-18-05, it has been determined that adding repetitive ultrasonic testing (UT) inspections of the fuse pin of the wing landing gear beam end fitting for any cracking and the option for repetitive replacement of certain corrosion-resistant (stainless) steel (CRES) fuse pins and steel alloy fuse pins is necessary to address the unsafe condition. This proposed AD would continue to require the actions in AD 2017-18-05 and would also require repetitive replacement of certain fuse pins at the wing landing gear beam end fitting, and repetitive inspections of the fuse pin for any cracking and applicable on-condition actions. This proposed AD would also revise the applicability by adding airplanes. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to www.regulations.gov. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet www.myboeingfleet.com. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available at www.regulations.gov by searching for and locating Docket No. FAA-2022-1054.

Examining the AD Docket

You may examine the AD docket at www.regulations.gov by searching for and locating Docket No. FAA-2022-1054; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, any comments received, and other information. The street address for Docket Operations is listed above.

FOR FURTHER INFORMATION CONTACT: Stefanie Roesli, Aerospace Engineer, Airframe Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3964; email: Stefanie.N.Roesli@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2022-1054; Project Identifier AD-2022-00278-T” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend the proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to www.regulations.gov, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this proposed AD.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public

docket of this NPRM. Submissions containing CBI should be sent to Stefanie Roesli, Aerospace Engineer, Airframe Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3964; email: Stefanie.N.Roesli@faa.gov. Any commentary that the FAA receives that is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The FAA issued AD 2017-18-05; Amendment 39-19014 (82 FR 41331, August 31, 2017) (AD 2017-18-05), for all The Boeing Company Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, 747SR, and 747SP airplanes. AD 2017-18-05 was prompted by a report of damage found at the lower trailing edge panels of the left wing and a broken fuse pin of the landing gear beam end fitting. AD 2017-18-05 requires repetitive replacement or inspection of certain fuse pins, and applicable on-condition actions. The agency issued AD 2017-18-05 to detect and correct cracking in the fuse pin of the wing landing gear beam end fitting. A broken fuse pin will not support the wing landing gear beam, causing damage to the surrounding structure, including flight control cables and hydraulic systems, which could result in loss of controllability of the airplane.

Actions Since AD 2017-18-05 Was Issued

Since the FAA issued AD 2017-18-05, it has been determined that adding repetitive UT inspections of the fuse pin of the wing landing gear beam end fitting for any cracking and the option for repetitive replacement of certain CRES fuse pins and steel alloy fuse pins is necessary to address the unsafe condition.

In addition, Model 747-8F and 747-8 series airplanes have been added to the applicability. Analysis showed that Model 747-8F and 747-8 series airplanes have a similar fuse pin in the same location as on Model 747-400 series airplanes, and these fuse pins are susceptible to fatigue cracks on the inner and outer surfaces.

FAA's Determination

The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

Related Service Information under 1 CFR Part 51

The FAA reviewed Boeing Alert Service Bulletin 747-57A2360, Revision 1, dated February 9, 2022. This service information specifies procedures for optional repetitive replacement of certain steel alloy fuse pins or CRES fuse pins with new or serviceable fuse pins, at the wing landing gear beam end fitting; and repetitive magnetic particle inspections, or repetitive surface high frequency eddy current (HFEC) and UT testing inspections, of the fuse pin of the wing landing gear beam end fitting for any cracking and corrosion and applicable on-condition actions. On-condition actions includes replacing with steel alloy or CRES fuse pins, and doing magnetic particle, surface HFEC, and UT testing inspections, and replacing cracked fuse pins.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Proposed AD Requirements in this NPRM

Although this proposed AD does not explicitly restate the requirements of AD 2017-18-05, this proposed AD would retain all of the requirements of AD 2017-18-05. Those requirements are referenced in the service information identified previously, which, in turn, is referenced in paragraph (g) of this proposed AD. This proposed AD would add airplanes to the applicability. This proposed AD would also require accomplishment of the actions identified as "RC" (required for compliance) in the Accomplishment Instructions of Boeing Alert Service Bulletin 747-57A2360, Revision 1, dated February 9, 2022, described previously.

For information on the procedures and compliance times, see this service information at www.regulations.gov by searching for and locating Docket No. FAA-2022-1054.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 207 airplanes of U.S. registry. The FAA estimates the following costs to comply with this proposed AD:

| Estimated costs | | | | |
|---|---|----------------|--------------------------------------|---|
| Action | Labor cost | Parts cost | Cost per product | Cost on U.S. operators |
| Fuse pin replacement ¹ (retained actions from AD 2017-18-05) | Up to 46 work-hours X \$85 per hour = \$3,910 per replacement cycle | Up to \$15,150 | Up to \$19,060 per replacement cycle | Up to \$3,945,420 per replacement cycle |
| Magnetic particle inspection ¹ (retained actions from AD 2017-18-05) | Up to 48 work-hours X \$85 per hour = \$4,080 per inspection cycle | \$0 | Up to \$4,080 per inspection cycle | Up to \$844,560 per inspection cycle |
| Surface inspection ¹ (retained actions from AD 2017-18-05) | Up to 10 work-hours X \$85 per hour = \$850 per inspection cycle | \$0 | Up to \$850 per inspection cycle | Up to \$175,950 per inspection cycle |
| CRES fuse pin replacement ¹ (new proposed action) | Up to 46 work-hours X \$85 per hour = \$3,910 per replacement cycle | \$9,007 | Up to \$12,917 per replacement cycle | Up to \$2,673,819 per replacement cycle |

| Action | Labor cost | Parts cost | Cost per product | Cost on U.S. operators |
|---|---|------------|--------------------------------------|---|
| Steel alloy fuse pin replacement ¹ (new proposed action) | Up to 46 work-hours X \$85 per hour = \$3,910 per replacement cycle | \$9,693 | Up to \$13,603 per replacement cycle | Up to \$2,815,821 per replacement cycle |
| Surface HFEC and UT inspections ¹ (new proposed action) | Up to 11 work-hours X \$85 per hour = \$935 per inspection cycle | \$0 | Up to \$935 per inspection cycle | Up to \$193,545 per inspection cycle |

¹ Operators may choose which action they want to use.

The FAA estimates the following costs to do any necessary replacements and inspections that would be required based on the results of the proposed inspections. The FAA has no way of determining the number of aircraft that might need these replacements and inspections:

On-condition costs

| Action | Labor cost | Parts cost | Cost per product |
|----------------------------------|---|------------|------------------|
| CRES fuse pin replacement | 46 work-hours X \$85 per hour = \$3,910 | \$9,007 | \$12,917 |
| Steel alloy fuse pin replacement | 46 work-hours X \$85 per hour = \$3,910 | \$9,693 | \$13,603 |
| Magnetic particle inspection | 48 work-hours X \$85 per hour = \$4,080 | \$0 | \$4,080 |
| Surface HFEC and UT inspections | 11 work-hours X \$85 per hour = \$935 | \$0 | \$935 |

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator.

Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA has determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the proposed regulation:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by:

a. Removing Airworthiness Directive (AD) 2017-18-05; Amendment 39-19014

(82 FR 41331, August 31, 2017), and

b. Adding the following new AD:

The Boeing Company: Docket No. FAA-2022-1054; Project Identifier AD-2022-00278-

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(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) action by
[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL
REGISTER].

(b) Affected ADs

This AD replaces AD 2017-18-05; Amendment 39-19014 (82 FR 41331, August 31, 2017) (AD 2017-18-05).

(c) Applicability

This AD applies to all The Boeing Company Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, 747SR, 747SP, 747-8F, and 747-8 series airplanes, certificated in any category.

(d) Subject

Air Transport Association (ATA) of America Code 57, Wings.

(e) Unsafe Condition

This AD was prompted by a report of damage found at the lower trailing edge panels of the left wing and a broken fuse pin of the landing gear beam end fitting, and the

determination that repetitive ultrasonic testing inspections of the fuse pin for any cracking and optional repetitive replacement of certain CRES and steel alloy fuse pins is necessary to address the unsafe condition. The FAA is issuing this AD to detect and correct cracking in the fuse pin of the wing landing gear beam end fitting. A broken fuse pin will not support the wing landing gear beam, causing damage to the surrounding structure, including flight control cables and hydraulic systems, which could result in loss of controllability of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

Except as specified by paragraph (h) of this AD: At the applicable times specified in paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 747-57A2360, Revision 1, dated February 9, 2022, do all applicable actions identified as “RC” (required for compliance) in, and in accordance with, the Accomplishment Instructions of Boeing Alert Service Bulletin 747-57A2360, Revision 1, dated February 9, 2022.

(h) Exceptions to Service Information Specifications

(1) Where the Compliance Time columns of the tables in the “Compliance” paragraph of Boeing Alert Service Bulletin 747-57A2360, Revision 1, dated February 9, 2022, use the phrase “the original issue date of this service bulletin,” this AD requires using the date of October 5, 2017 (the effective date of AD 2017-18-05).

(2) Where the Compliance Time columns of the tables in the “Compliance” paragraph of Boeing Alert Service Bulletin 747-57A2360, Revision 1, dated February 9, 2022, use the phrase “the Revision 1 date of this service bulletin,” this AD requires using “the effective date of this AD.”

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Seattle ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (j)(1) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by The Boeing Company Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO Branch, FAA, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(4) Except as specified by paragraph (h) of this AD: For service information that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (i)(4)(i) and (ii) of this AD apply.

(i) The steps labeled as RC, including substeps under an RC step and any figures identified in an RC step, must be done to comply with the AD. If a step or substep is labeled “RC Exempt,” then the RC requirement is removed from that step or substep. An AMOC is required for any deviations to RC steps, including substeps and identified figures.

(ii) Steps not labeled as RC may be deviated from using accepted methods in accordance with the operator's maintenance or inspection program without obtaining approval of an AMOC, provided the RC steps, including substeps and identified figures, can still be done as specified, and the airplane can be put back in an airworthy condition.

(j) Related Information

(1) For more information about this AD, contact Stefanie Roesli, Aerospace Engineer, Airframe Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3964; email: Stefanie.N.Roesli@faa.gov.

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet www.myboeingfleet.com. You may view this referenced service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

Issued on August 12, 2022.

Gaetano A. Sciortino, Deputy Director for Strategic Initiatives,
Compliance & Airworthiness Division,
Aircraft Certification Service.

[FR Doc. 2022-19960 Filed: 9/16/2022 8:45 am; Publication Date: 9/19/2022]